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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/521,848	VAN DER VEEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Darren B. Schwartz	2435	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 25 January 2011.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 and 8-10 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-6 and 8-10 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date. _____ .	6) <input type="checkbox"/> Other: _____ .

## DETAILED ACTION

Applicant amends claims 1 and 8.

Claims 1-6 and 8-10 are presented for examination.

### ***Response to Arguments***

1. In light of Applicant's amendments to the claims, the claim rejections under 35 U.S.C. 101 are withdrawn.

Applicant's arguments filed 25 January 2011 have been fully considered but they are not persuasive.

2. Applicant argues on page 5 of Remarks: "The Office alleges that the evidence 'Distance: From Wikipedia, the free encyclopedia,' as indexed by [www.archive.org](http://www.archive.org), October 12, 2007 (hereinafter referred to as the Archive), shows that undue experimentation is needed to make or use the invention which comprises the mathematical distance measure. Applicants respectfully disagrees. Applicants submit that based on the same evidence, the Archive clearly shows that mathematical distance measures are well-known and well-defined in the art."

Applicants have failed to appreciate the gravity of the Examiner's Position. The Examiner in no way addresses whether or not mathematical distance measuring functions are well-known nor does the Examiner address whether mathematical distance measuring functions are well-defined in the art. Applicants are reminded that Applicants must address the actual position taken by the Office and point out any errors

in the actual position taken to overcome a *prima facie* case made by the Office, see 37 C.F.R. 1.111(b).

Applicants' arguments continue: "Therefore, Applicants submit that it does not require undue experimentation to make and use the claimed invention. Furthermore, Applicants submit herewith an affidavit by Fons Bruekers, the co-inventor of the present application, as evidence that, at the time of the invention, a person of ordinary skill would be able to carry out the processes disclosed in pages 5-6 of the instant application, including a mathematical distance measure, without undue experimentation."

The Examiner disagrees and addresses the affidavit by co-inventor/Scientist Fons Bruekers. The Examiner further notes that while Mr. Bruekers is considered, with respect to the instant case, one of ordinary skill in the art, the Examiner emphasizes that Mr. Bruekers is in fact a co-inventor of the instant application; the Examiner addresses the position presented in the affidavit.

3. The declaration of Fons Bruekers states: "I have carried out the processes disclosed in pages 5 - 6 of the instant application, including a mathematical distance measure. As a person of ordinary skill in the art, **(a)** I clearly understand what is meant by a mathematical distance measure. **(b)** I can easily select or define an applicable mathematical distance measure function, because of the following reasons."

Regarding point (a), the Examiner in no way disputes the terminology of a mathematical distance measuring function, the Examiner's position is with the "scope" of the terminology as it is used in the claimed invention.

Regarding point (b) the Examiner has dispute with this point as the number of mathematical distance measuring functions is quite multitudinous (see the prior Office Action in the instance Office Action *infra*).

The declaration of Fons Bruekers further states: **(C)** In the text of the patent application is mentioned that the fingerprint is a bit sequence. **(D)** A straightforward distance measure for bit sequences is the counting of the number of bits that are different in both sequences. **(E)** Alternatively this may be called the Hamming distance or the L1-norm"

Regarding point (C), the Examiner has no qualm with Applicant's fingerprint represented as a bit sequence, yet, this in no way violates nor obviates the Examiner's interpretation in the multitudinous number of mathematical distance measuring functions that use bit sequences.

Regarding point (D), the Examiner notes the disclosure of the invention is silent as to this point. The disclosure of Applicant's invention is not limited to counting the number of bits that are different in both sequences. While Applicant's specification states, *at most*, the following pertinent to the difference in bit sequences: "Moreover, the use of the watermark may involve using watermark information that is calculated in dependence of the information contained in the first fingerprint or the difference

between the fingerprint and fingerprints already stored in the database" (page 2, lines 26-28). The disclosure of the invention is not limited to "counting of the number of bits that are different in both sequences." This constitutes an improper narrowing of the claimed "mathematical distance measuring function."

Regarding point (E), the Examiner finds that Hamming distances are different from the L1-norm; a.k.a. they are not synonymous with one-another. The Hamming distance is the difference of symbols of two strings of equal length. The Hamming distance is used to measure the minimum number of numeric substitutions required to change one bit string into the other bit string; this number represents the minimum number of such substitutions.

While the Examiner in no way disputes that a Hamming distance is a mathematical distance measuring function, the Examiner does dispute that a Hamming distance is one of many, quite valid, mathematical distance measuring functions applicable to the instant invention. Applicants are reminded that Applicants must address the actual position taken by the Office and point out any errors in the actual position taken to overcome a *prima facie* case made by the Office, see 37 C.F.R. 1.111(b).

Further, in regards to point (E), the L1-norm, also known as the  $L_1$  distance (this synonym is relevant to the arguments presented *infra* as they pertain to the claim rejections under 35 U.S.C. 103(a)) or "Manhattan distance" is the distance between two points. However, to further clarify, Applicant's use of the L1-norm would be over  $[0,1]^n$ . Regardless of the clarification, the disclosure of the invention is not limited to the "L1-

norm over  $[0,1]^n$ ." This constitutes an improper narrowing of the claimed "mathematical distance measuring function."

While the Examiner in no way disputes that the L1-norm over  $[0,1]^n$  is a mathematical distance measuring function, the Examiner does dispute that a L1-norm over  $[0,1]^n$  is one of many, quite valid, mathematical distance measuring functions applicable to the instant invention.

The declaration of Fons Bruekers further states: "Furthermore, as already put forward as evidence in the present application ('Distance: From Wikipedia, the free encyclopedia,' as indexed by [www.archive.org](http://www.archive.org), October 12, 2007, hereinafter referred to as the 'Archive'), (F) there are well-known and well-defined mathematical distance measures in the art. (G) As a person of ordinary skill in the art, I can select an applicable mathematical distance measure from those outlined by the Archive. (H) Therefore, the Archive shows that it does not require undue experimentation, because the Archive contains mathematical distance measures that are readily available for a skilled person to use."

In regards to point (F), the Examiner does not dispute the existence nor the lexicography of Applicants' use of a mathematical distance measuring function; however, the Examiner disputes the scope of the claimed mathematical distance measuring function. As stated in the earlier office action with the corresponding evidence (e.g. the Archive), the Examiner maintains that a mathematical distance measuring function can encompass a multitudinous number of functions over a

multitudinous number of paradigms. The fact that Applicants' mathematical distance measuring function is over bit sequences does not remove nor lessen the number of applicable functions. Any numbering system, e.g. binary, decimal or hexadecimal, is irrelevant to the number of Applicable mathematical distance measuring functions.

In regards to point (G), Applicants appears to acquiesce to the fact that there exist a multitudinous number of functions over a multitudinous number of paradigms that qualify as an applicable mathematical distance measuring function that may be applied in forming the claimed invention. This is undue and leaves one of ordinary skill without guidance as to how to implement the mathematical distance measuring function.

In regards to point (H), the Applicants' have failed to appreciate the gravity of the position taken by the Examiner. The Examiner does not dispute whether or not a mathematical distance measuring functions is known to one of ordinary skill; to the contrary, the Examiner holds that a multitudinous number of functions over a multitudinous number of paradigms that qualify as an applicable mathematical distance measuring function that may be applied in forming the claimed invention. Applicants are reminded that Applicants must address the actual position taken by the Office and point out any errors in the actual position taken to overcome a *prima facie* case made by the Office, see 37 C.F.R. 1.111(b).

The Examiner concludes that Applicant has failed to fully address the Examiner's position pertaining to the claim rejections under 35 U.S.C. 112, first paragraph, enablement. Those arguments that address that address the reference, the Archive, as

applied to the Examiner's position under 35 U.S.C. 112, first paragraph, enablement, are unpersuasive, see *supra*. The Examiner sustains.

The Examiner addresses the arguments pertaining to the claim rejections 35 U.S.C. 103(a).

4. Applicant argues on page 7 of Remarks "Applicants submit that Wells is related to automatic identification of sound records, and Wells' identification procedure is fundamentally different from that of the claimed invention."

In response to applicant's argument that Wells is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention.

See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the instant disclosure of the invention: "The system 100 is in connection with a digital communication network 105 through which information in the form of, e.g. digital media sequences including audio, video or any other sequence that the system 100, a provider 106 and a user 107 wish to communicate." (page 4, lines 26-32). Thus, Well's is quite relevant to the instant invention as both are directed to the identification of sound recordings.

Applicant's argument that the instant invention and Well's perform their procedures in a different manner is irrelevant to the Examiner's position which applies a 103(a) rejection "in view of" Wells.

5. On page 7 of Remarks quotes Wells, ¶199. Applicant argues on page 8 of Remarks: "Applicants submit that such element-by-element search does not determine a mathematical distance measure between fingerprints, but rather the absolute value between an element of one fingerprint and the corresponding element of another fingerprint."

The Examiner notes, the Examiner in no way affirms nor dissents upon Applicant's interpretation nor summarization of the cited references.

The following is held:

All of the disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." In re Lemelson, 397 F.2d 1006, 1009 (CCPA 1968) (citing In re Boe, 355 F.2d 961, 965 (CCPA 1966)).

The Examiner addresses Applicant's argument, which states "but rather the absolute value between;" the Examiner finds this to be an inconsistent reading of Wells, wherein Wells states: "the absolute difference between the values" (Wells, ¶202). Thus, the Applicant has failed to address the teachings of the cited reference.

Applicant's argument against the mathematical distance measuring function of Wells not teaching the mathematical distance measuring function of Applicant is fundamentally flawed as Applicant's affidavit is directed to a mathematical distance measuring function, L1-norm (a.k.a. L1 distance). ¶202 states "This difference may be computed in a variety of ways, including what is called the 'L1 distance.'" (Wells, ¶211). The Examiner finds these mathematical distance measuring functions to be identical, despite the claim deficiencies under 35 U.S.C. 112, first paragraph, enablement. The mathematical distance measuring function of the cited art is consistent with Applicant's disclosure of the invention and the newly applied affidavit.

6. On page 8 of Remarks, Applicant argues: "Applicants submit that there is no reason to apply the teachings of Lofgren and Levy to Wells. Wells, paragraph [0200], discloses that once the number of those matches is below some number, the closest of those matches is determined to be the matching fingerprint. Since Wells already establishes a procedure for determining the matching fingerprint as the closest of those matches, there is no need to further determine a watermark to distinguish among those matches."

The Examiner disagrees. Wells states:

This procedure is iterated at most N times (¶203) and compares  $\text{size}(S_j) < M$  & if so, exits, wherein  $S_j$  represents the set of candidate fingerprints. Thus, Wells stops with a collection of potential candidate fingerprints that have "survived" the mathematical distance measuring function and the comparison steps.

7. On page 9 of Remarks: “In the Office Action, page 11, the Office asserts that the reason to combine Lofgren and Levy to Wells is to provide uniquely identifying proprietary content whilst maintaining the integrity and quality of the original media. (A1) Applicants respectfully submit that this is not a valid reason to combine these references. (A2) Since Wells already establishes a procedure for identifying the sound recording, there is no need to further determine watermark for identification. (A3) As Wells’ procedure apparently does not affect the integrity and quality of the original media, the watermark does not provide such advantage.”

The Examiner disagrees.

Regarding argument (A1), Wells’ in no way addresses media integrity; thus, these statements are unsupported by the reference but merely argumentative. The arguments of counsel cannot take the place of evidence in the record. See *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *In re Payne*, 606 F.2d 303, 315 (CCPA 1979); *In re Greenfield*, 571 F.2d 1185, 1189 (CCPA 1978); *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

Regarding argument (A2), the Examiner disagrees; while Wells’ provides for identifying a subset of candidate digital sequences using a mathematical distance measuring function, Lofgren provides for also using a plurality of digital sequences and uses watermarks to uniquely identify a digital sequence. The advantage of a watermark is known to one of ordinary skill as resisting tampering. Fingerprinting a digital sequence does not provide this utility and to incorporate the teachings of Lofgren

provides this known utility; this utility is expressly disclosed in the prior and instant office action.

8. Applicant argues on page 9 of Remarks: “According to MPEP 2143. 01 VI, if the proposed modification or combination of the prior art would change the principle of operation for the prior art invention being modified, then the teachings of the references are not sufficient to tender the claims *prima facie* obvious.”

The Examiner disagrees and notes that the cited references all lead to the conclusion of determining a unique digital sequence.

The skilled artisan would “be able to fit the teachings of multiple patents together like pieces of a puzzle” since the skilled artisan is “a person of ordinary creativity, not an automaton.” *Id.* at 420-21. Applicant’s have presented no evidence that modifying Wells’ with Lofgren and Levy is “uniquely challenging or difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art.” *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418-19).

Since Applicant argues claims 4 and 8 together with claim 1, the claims fall together.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention.

Regarding independent claims 1, 4 and 8, each claim recites “if multiple second fingerprints are matched that have a mathematical distance measure less than a predefined limiting distance from the first fingerprint,” with particular emphasis on the mathematical distance measure.

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is “undue;” the Examiner addresses these factors (*In re Wands*, 858 F.2d 731, 737 (Fed. Cir.1988))

In establishing the meets of the invention, the Examiner finds support for such “mathematical distance measure” on page 5, lines 18-30 and page 6, line 12-18, wherein the “mathematical distance measure” is defined as M wherein it is taught whether  $M(H_x, H_{1\dots N}) > D_1$  or  $M(H_x, H_{1\dots N}) < D_1$ . The Applicant agrees with this support as demonstrated on pages 4-5 of the Appeal Brief.

Applicant’s argument that “no experimentation is required to make and use the claimed invention, because a skilled person can define and use an applicable

mathematical distance measure function  $M(H_x, H_{1\dots N})$ " (page 9 of the Appeal Brief) explicitly establishes that a person of ordinary skill would have to find such a mathematical distance measure function  $M$ ; this argument further contributes to the lack of enablement as a person of ordinary skill is given no direction as to what qualifies as a mathematical distance measure function  $M$ . Even if one of ordinary skill were to find such a mathematical distance measure function  $M$ , the Examiner believes that the quantity of experimentation in determining a mathematical distance measure function  $M$  would be "undue."

Based on the disclosure of the invention and Applicant's statements, Applicant's have placed entire burden on a person of ordinary skill in the art rather than teaching themselves within the enablement provision requirement of the first paragraph of 35 U.S.C. 112 affirmatively how to make and use the presently claimed subject matter, specifically, the mathematical distance measure function. There is a clear and explicit lack of direction provided by the inventor as to what Applicant regards as a mathematical distance measure function.

The "mathematical distance measure," hereinafter referred to  $M$ , as disclosed by Applicant, is left ambiguous; the function has no substance other than its inputs  $H_x$  &  $H_{1\dots N}$  and a potential output that may or may not be less than or greater than a value  $D$ . Such "mathematical distance measure" is left undefined and unbounded; the claimed "mathematical distance measure" covers all past and present measures and those yet to be conceived. Thus, disclosure of the invention is commensurate with the scope of protection sought by the claims.

The Examiner notes, the specification is silent as to working examples.

The Examiner introduces the following evidence: "Distance: From Wikipedia, the free encyclopedia," as indexed by [www.archive.org](http://www.archive.org), October 12, 2007, hereinafter referred to as The Archive. In certain circumstances, references cited to show a universal fact need not be available as prior art before applicant's filing date. *In re Wilson*, 311 F.2d 266, 135 USPQ 442 (CCPA 1962). References which do not qualify as prior art because they postdate the claimed invention may be relied upon to show the level of ordinary skill in the art at or around the time the invention was made. *Ex parte Erlich*, 22 USPQ 1463 (Bd. Pat. App. & Inter. 1992).

The Archive establishes that a mathematical distance measure, distance measuring function or distance, covers several mathematical paradigms: geometry, Euclidean spaces, metric spaces and sets. The geometry paradigm covers the well known Pythagorean's theorem over n-space, a well known mathematical distance measure. The Euclidean space paradigm covers several norm distances over n-space, another well known mathematical distance measure. The metric paradigm covers distance functions defined as  $d$ , another mathematical distance measure, wherein "This definition satisfies the three conditions above, and corresponds to the standard topology of the real line. But distance on a given set is a definitional choice;" the definitional choice is clearly left open to those who wish to choose a different metric; thus the paradigm is open to various mathematical distance measures. The set paradigm covers two classes which are defined via metric spaces, discussed *supra* and is thus

unbounded in what may be considered a mathematical distance function  $d$  over the metric space. The Archive further describes other distances, a.k.a. Hamming distance “used in coding theory,” another well known distance measure function over computer datums.

Since none of these paradigms are inconsistent nor inapposite to Applicant’s claimed mathematical distance measure they are thus qualified as mathematical distance measures. The Examiner has shown a mathematical distance measure encompasses several mathematical distance measure’s over several mathematical paradigms. There is an abundant quantity of mathematical distance measuring functions known to one of ordinary skill that may be applicable and representative of Applicant’s mathematical distance measure function  $M$ . Thus, the quantity of experimentation needed to make or use the invention which comprises the mathematical distance measure function  $M$  is quite undue.

Dependant claims 2, 3, 5, 6, 9 and 10 encompass alternative embodiments of the independent claims without further clarifying nor obviating the issues addressed *supra*. Thus the dependant claims inherit the deficiencies of the claims upon which they depend.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wells et al (U.S. Pat App Pub 2003/0086341 A1), hereinafter referred to as Wells, in view of Lofgren, hereinafter referred to as Lofgren et al (U.S. Pat App Pub 2002/0154144 A1), hereinafter referred to as Lofgren, in further view of Levy et al (U.S. Pat App Pub 2003/0021441 A1).

Re claims 1 and 8: Wells teaches a method for identifying a first digital data sequence and a method for enabling identification of a first digital data sequence, comprising:

calculating, by a processor [Fig 16, elt 1602], a first digital fingerprint based on at least part of the first sequence (Figure 1B; ¶89; ¶100),

comparing, by a processor [Fig 16, elt 1602], the first fingerprint with a plurality of second fingerprints respectively associated with a plurality of second digital data sequences (¶67; ¶96),

if multiple second fingerprints are matched that have a mathematical distance measure less than a predefined limiting distance from the first fingerprint (Figure 7A, elts 702→703—Yes→705; ¶199-¶208); otherwise the first fingerprint is established as unique (Figure 7B, elts 717→718→719—Yes→720; ¶200).

However, Wells does not expressly disclose, calculating, by the processor, a digital watermark associated with the first data sequence and comparing, by the processor, the calculated digital watermark with second digital data sequences in order to establish an identity of the first digital data sequence.

Yet, Lofgren teaches calculating, by the processor [¶36], a digital watermark associated with the first data sequence (¶37, lines 6-8; ¶45, lines 1-2; ¶46, lines 2-3; ¶47) and comparing, by the processor [¶36], the calculated digital watermark with second digital data sequences in order to establish an identity of the first digital data sequence (¶38; ¶46, lines 2-3; ¶47; ¶49, lines 3-8; ¶51-¶52; ¶65; ¶73).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells with the teachings of Lofgren, for the purpose of providing uniquely identifying proprietary content whilst maintaining the integrity and quality of the original media. Further, watermarks are appreciated by those of ordinary skill in tracking potentially pirated content from the original breach and thus holds accountability in pirated content.

However, the combination of Wells and Lofgren does not expressly disclose watermarks respectively associated with the matched multiple second fingerprints.

Levy teaches watermarks (¶58) respectively associated with the matched multiple second fingerprints (¶51; ¶54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells and Lofgren with the teachings of Levy, for the purpose of simultaneously providing protecting the integrity of proprietary content and unique identification of proprietary content to protect them from pirating; Levy recognizes utilizing both fingerprinting, watermarking and applying such techniques to protect proprietary content.

Lofgren, for the purpose of indexing, searching & retrieving information expediently.

Re claim 4: Wells teaches a system for identifying a first digital data sequence, comprising: a processor for (Fig 16, elt 1602)

calculating a first digital fingerprint based on at least part of the first sequence (Figure 1B; ¶89; ¶100),

comparing the first fingerprint with a plurality of second fingerprints respectively associated with a plurality of second digital data sequences (¶67; ¶96),

if multiple second fingerprints are matched that have a mathematical distance measure less than a predefined limiting distance from the first fingerprint (Figure 7A, elts 702→703—Yes→705; ¶199-¶208); otherwise the first fingerprint is established as unique (Figure 7B, elts 717→718→719—Yes→720; ¶200).

However, Wells does not expressly disclose, calculating a digital watermark associated with the first data sequence and comparing the calculated digital watermark with second digital data sequences in order to establish an identity of the first digital data sequence.

Yet, Lofgren teaches calculating a digital watermark associated with the first data sequence (¶37, lines 6-8; ¶45, lines 1-2; ¶46, lines 2-3; ¶47) and comparing the calculated digital watermark with second digital data sequences in order to establish an identity of the first digital data sequence (¶38; ¶46, lines 2-3; ¶47; ¶49, lines 3-8; ¶51-¶52; ¶65; ¶73).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells with the teachings of Lofgren, for the purpose of providing uniquely identifying proprietary content whilst maintaining the integrity and quality of the original media. Further, watermarks are appreciated by those of ordinary skill in tracking potentially pirated content from the original breach and thus holds accountability in pirated content.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Wells and Lofgren with the teachings of Levy, for the purpose of simultaneously providing protecting the integrity of proprietary content and unique identification of proprietary content to protect them from pirating; Levy recognizes utilizing both fingerprinting, watermarking and applying such techniques to protect proprietary content.

Lofgren, for the purpose of indexing, searching & retrieving information expediently.

Re claims 2, 5 and 9: The combination of Wells, Levy and Lofgren teaches calculating the digital watermark associated with the first data sequence, is dependent on information contained in the first fingerprint (Levy: ¶54: lines 15-21 & lines 33-36; ¶57-¶58; Lofgren: ¶47; ¶49).

Re claims 3, 6 and 10: The combination of Wells, Levy and Lofgren teaches calculating the digital watermark associated with the first data sequence is dependent on information resulting from the comparison between the first fingerprint and the plurality of second fingerprint (Levy: ¶51; ¶54: lines 15-21 & lines 33-36; ¶57-¶58; Lofgren: ¶47; ¶49; ¶52).

### ***Conclusion***

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the text of the passage taught by the prior art or disclosed by the examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren B. Schwartz whose telephone number is (571)270-3850. The examiner can normally be reached on 7am-5pm EST, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571)272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. B. S./  
Examiner, Art Unit 2435

/HOSUK SONG/  
Primary Examiner, Art Unit 2435